THE FARM INDEX

U.S. Department of Agriculture / February 1974

MEETING
IN MOSCOW

Latest report of cattle on feed in the 23 major feeding States held little hope for a big leap in beef production between now and June.

Compared with a year earlier, the quarterly report showed sizable increases in heavier cattle but these were more than offset by smaller numbers of lighter animals to be marketed after the winter. The total number of cattle on feed on January 1, 1974, dropped 6 percent from the start of 1973.

The report indicated cattlemen intended to ship about the same volume during January-March 1974 as in first quarter 1973. Spring marketings may be up slightly from the spring of 1973 when fed cattle shipments were sharply curtailed by severe weather, the consumer boycott on meat, and the ban on the growth hormone, DES.

Cattle prices will stay strong, with the winter average estimated at $45-$47/cwt. for Choice steers at Omaha, and the spring average somewhat higher.

In the pork supply picture, it's six of one and half dozen of the other. In the first 6 months of 1974, supplies are projected smaller than a year earlier. But recovery in the second half should about offset the shrinkage, leaving total 1974 supplies near the 1973 volume.

On price, ERS expects barrows and gilts in first half 1974 will average around $5 above last January-June's $36/cwt. at seven markets.

Over $100 a ton for fertilizer? It could come to that in 1974, judging by the fast demand and limited supply. ERS fertilizer experts say the price could soar to $102 in 1974, a hike of $24 from last year and $31 over 1972.

Fertilizers high in nitrogen are expected to cost farmers 50 percent more this spring than last. Phosphates may zoom 40 percent and potash 20 percent.

At $100-plus per ton, farmers' fertilizer bill in 1974 would balloon 40 percent from 1973 to around $4 billion.

The shortage of natural gas, essential to make ammonia, is keeping the lid on nitrogen production. By year's end, ammonia production will be up only 2 percent. Outlook is better for phosphoric acid. Five new plants will come onstream in late 1974, ending a 2-year drought in acid output.

MARKETS • FINANCE • OUTLOOK • DEMAND & PRICE • RURAL DEVELOPMENT • TRANSPORTATION • LIVESTOCK • MEAT • WORLD AGRICULTURE • FARM REAL ESTATE • FARM COST • NATIONAL FOOD • FERTILIZER • VEGETABLE • OILS • COTTON • FEED • RICE • WOOL • POULTRY • DAIRY • TOBACCO • FATS • FARM INCOME • EGG

What's the Situation?

"Sizzling demand may lure larger cotton production . . . World developments could create swings in wheat prices . . . Uptrend in grocery prices may be slowing . . ."

That's just a sampling of the kind of information featured in ERS's situation reports, more than 20 separate publications in all.

Following are the release dates of the reports for the March-May period. Single copies are available on request. Each report also has a mailing list to which your name may be added. Write ERS Publications Unit, Rm. 0054, U.S. Department of Agriculture, Wash., D.C. 20250.

Subject	Summary released to press	Publication available to public
Dairy	Mar. 6	Mar. 14
Tobacco	Mar. 15	Mar. 25
Agricultural Finance Outlook	Mar. 7	Mar. 15
Agricultural Supply and Demand	Mar. 15	Mar. 15
Rice	Mar. 22	Apr. 1
Agricultural Outlook Digest	Mar. 26	Apr. 3
Cotton	Apr. 3	Apr. 11
Fats and Oils	Apr. 1	Apr. 9
Vegetable	Apr. 22	Apr. 30
Poultry and Egg	Apr. 23	May 1
Wool	Apr. 24	May 3
Agricultural Outlook Digest	Apr. 26	May 6
Agricultural Supply and Demand	Apr. 25	Apr. 25
Livestock and Meat	Apr. 30	May 8
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Marketing and Transportation	May 13	May 21
Demand and Price	May 10	May 20
Feed	May 16	May 24
Wheat	May 20	May 29
Cotton	May 23	June 1
Agricultural Outlook Digest	May 24	June 2

Egg production is picking up. By midyear there could be 3 to 4 percent more eggs on the market than at the same time in 1973. Egg prices so far this year have been running well ahead of the 1973 period. But they'll soon be moving down, and for the first 6 months may average only a shade above the January-June 1973 figure of 51 cents per dozen (grade A, N.Y. wholesale).

Momentum in broiler output is building, too. The year began with production outpacing the early 1973 performance by about 1 percent. The lead will widen as 1974 progresses, and for January-June, broiler output is expected to average 2-3 percent above a year ago.

Wholesale prices will probably average 40 cents a pound in the first half, about the same as a year earlier. But prices are apt to sag from 1973 levels as midyear approaches. At retail, prices are seen higher than last year at least through June.

There'll be no paucity of turkeys either. Hatching and placements add up to a 15-percent production gain for first half 1974. More fresh turkeys, plus heavier-than-usual cold storage stocks in early 1974, will be felt in weaker wholesale prices in early 1974. Ditto for prices in food stores.

Tobacco use will outstrip production again this year. Use will about match the 2 billion pounds of last season whereas 1973 output was 1.8 billion. This means further drawdown in carryover from the 3.3 billion pounds at the start of the 1973/74 marketing year. Tobacco exports have been moving faster than expected, prompting USDA to raise the flue-cured production quota by 10 percent. For 1974, shipments of unmanufactured tobacco should top the 1963-72 average of 538 million pounds.

Look for another record in cigarette smoking. Last year Americans puffed an

estimated 587 billion, of itself an all-time high. The rise in 1974 will mirror above-average population gains for the 25-to-44 age group and a low level of anti-cigarette announcements.

Spurting sales of cigarettes and little cigars are hurting large cigars. Consumption dropped to about 6.9 billion in 1973. Overall sales trend has been down since 1964, and further declines are likely this year.

In the vegetable corner, the onion business had a wild year in 1973. Now it's dry beans' turn. Moving into 1974, growers' prices were $30/cwt.—three times higher than a year ago. Reason is a demand surge from two quarters: the U.S. consumer, who is buying dry beans as never before to replace high-cost protein foods; and the export market, which regards beans as a good buy as a result of the dollar devaluations. And, the supply these users are bidding for is relatively skimpy . . . 9 percent less than last year.

Situation continues tight for the processed vegetable supply. That goes for both canned and frozen items, especially sweet corn, peas, and most tomato products. To cope with heavy demand, packers are prorating orders. Government offers to buy processed vegetables are going virtually unanswered. Little relief is in sight till the new selling season starts in the summer.

Prices for potatoes, fresh and frozen, will also keep on the high side through the summer. Expect the first big drop around September. **Good news, by contrast, is the lettuce outlook.** Supplies are now quite generous and should remain so well into the spring. Canned mushrooms are abundant too.

The U.S. soybean situation has eased from its precarious stance of last spring and summer. If harvested acreage and yields are on trend, total supply in 1974/75 could rise to a record 1.8 billion bushels due to the large carryover expected next fall. Disappearance would be around 1.5 billion bushels.

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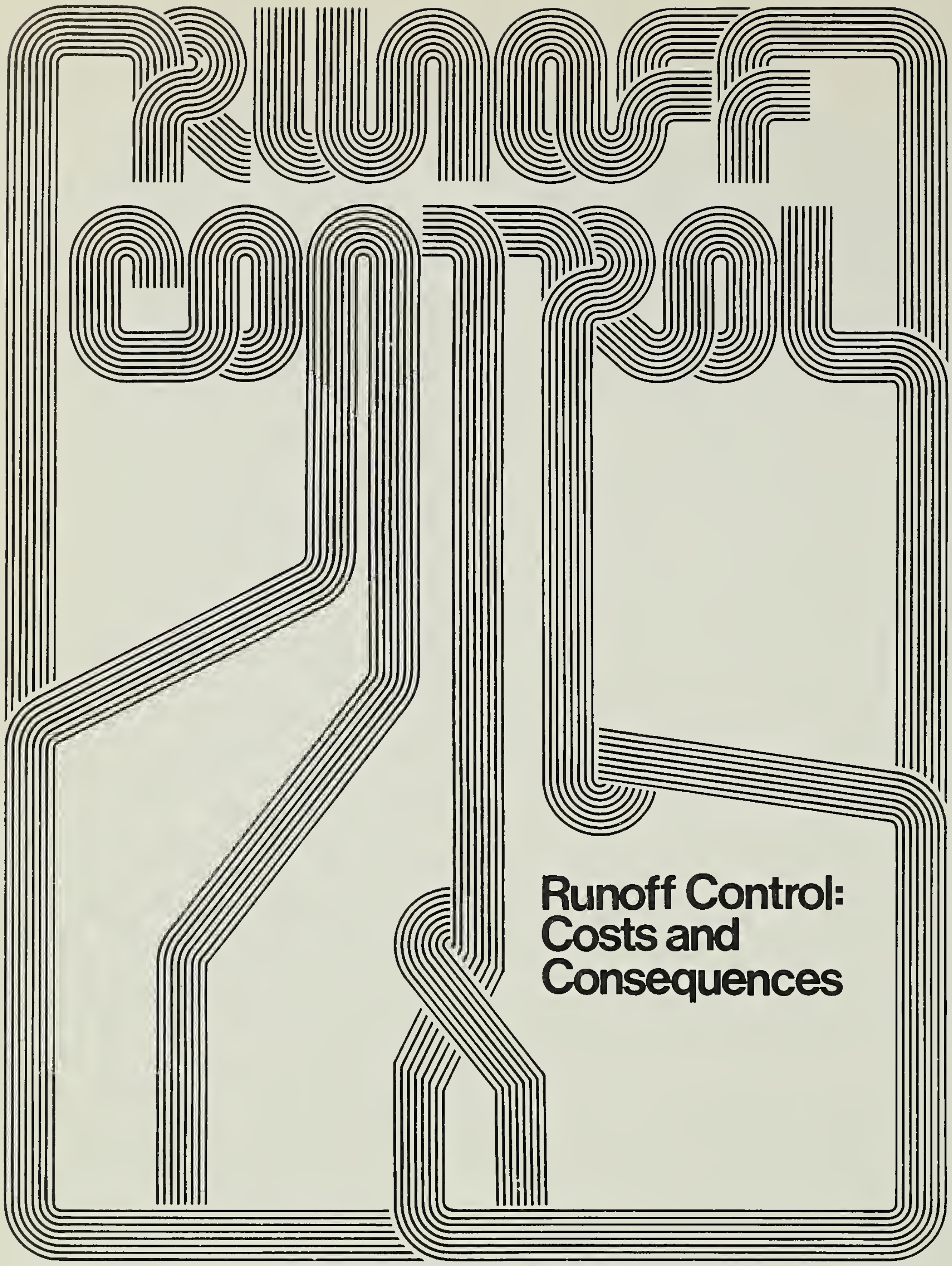


Runoff Control: Costs and Consequences

Thousands of U.S. livestock producers face investments in runoff control facilities and added operating costs as a result of the Federal Water Pollution Control Act Amendments. Enacted by Congress in 1972, this act charged the Environmental Protection Agency (EPA) with developing a broad national program to eliminate water pollution.

Guidelines for point source runoff control have since been drawn up, and they apply to all livestock operators with runoff problems at production sites. Left uncontrolled, runoff from livestock production sites can transport animal wastes from feeding and holding areas to creekbeds and streams.

Many questions have been asked about the guidelines and about their economic impact on livestock operators and consumers. In the next few pages ERS explores some of the issues. Among the questions researchers have attempted to answer—

How much will controls cost livestock producers? Will some be forced to call it quits? Would the dairy, fed beef, and hog industries face serious disruption? And what about consumer prices?

The surface water control guidelines, which were drafted by the EPA last fall, are aimed at stopping point source discharges. They require producers with surface water problems—where runoff from feeding and holding areas can enter rivers, lakes, and streams—to install facilities that are sufficient to contain runoff from major rainfalls by July 1977.

The specific guidelines for 1977 call for containment of runoff from a 10-year, 24-hour storm event (in major livestock areas, generally amounts to 2½-5½ inches of rain during a 24-hour period). The facilities must also contain process waste water, such as wash water from dairy operations.

Big operators only. *As now proposed, point source control guidelines apply only to very large producers with more than 1,000 beef animals, 700 dairy cows, or 2,500 hogs. But later this year, guidelines will be proposed for smaller units.* Eventually all procedures may be covered.

If *all* producers had to comply with currently proposed guidelines, it would involved a total initial investment of an estimated $¾ billion. The investment in runoff control facilities would fall on some 280,000 dairymen, cattle feeders, and hog farmers.

While the facilities required to meet guidelines would vary with size, type, and location of the livestock operation, most runoff control systems would feature four basic components:

√ diversion terraces to prevent fresh water from flowing across production sites and open lots,

√ settling basins to collect settable solids in runoff,

√ retention ponds to catch and temporarily store runoff and waste water, and

√ pumps and irrigation equipment to periodically empty the holding ponds and distribute the effluent onto farmland.

The costs of installing these systems would fall heaviest on small producers. For example, of the esti-

mated $133 million that the fed beef industry would have to invest to comply with EPA guidelines, more than two-thirds would be borne by feeders selling fewer than 100 head per year. In the hog industry, four-fifths of the total $280 million investment would be required of producers selling fewer than 500 head per year.

Experts say that the added costs of runoff control could force many small producers out of the livestock business. As many as 60 percent of the hog producers with runoff problems are small volume operators with high unit costs. And additional investments per animal are much higher for smaller volume producers. For example, small beef producers (under 100 head) might have to invest as much as $145 per head while large producers would have to invest only $3 per head.

Drop out anyway. Some of the producers that can withstand the added financial burden may decide to drop out of the industry. For some, uncertainty about future environmental controls, such as nonpoint source control guidelines, may cause them to postpone investment decisions. Others may opt for concentrating production resources in other farm enterprises such as grain production.

In the short run, the economic impact of runoff controls would be greatest for dairy and swine producers. If producers left the livestock industry in large numbers, supplies of dairy products and pork would tighten considerably.

Consumer prices for these items could shoot up as much as 10-15 percent. But for fed beef, the short-term effects on prices and supplies of beef would probably be nominal.

Side effects. Consumers wouldn't be the only ones to feel the pinch. If large numbers of producers dropped out of business, reduced business for feed, equipment, veterinarians, and other agricultural service firms could seriously affect the economies of some rural communities in livestock producing areas.

Over the longer run, however, the effect of runoff control guidelines on supplies are expected to be less dramatic. Those operators who remain in business will enlarge their operations and adopt cost-saving technologies. Production of livestock products will continue to shift increasingly to areas where production costs are lowest. Fed cattle operations, for example, could become more concentrated in the Plains States.

As for the consequences of runoff control guidelines on the separate livestock industries, here's what economists see in store:

Dairy

Of the 305,000 dairies expected to be operating in 1976, an estimated 40 percent would have surface water runoff problems.

Experts figure the dairy industry would have to invest some $300 million to comply with pollution control guidelines proposed by the EPA. Partly because of uncertainty about how to comply and whether any action taken now will meet future regulations, relatively few dairy farms have installed runoff control facilities.

Big three. To determine the impact of the guidelines on dairymen, milk supplies, and prices, ERS looked at three major producing regions—the North, Southeast, and Southwest. These regions produce around 80 percent of the Nation's milk and account for about 75 percent of the national dairy herd.

In the northern region, herds tend to be small, and cows are typically housed in stanchion barns with outside lots. Very few northern dairies have special runoff collection facilities.

Dairy farms in the Southeast tend to be larger, and most feature open housing with exposed lots. Rainfall is heavy—50 to 65 inches per year—and dairymen use anywhere from 50 to 150 gallons of wash water per cow per day.

Large dairy farms also predominate in the Southwest. Most herds in this area are kept in open loose housing facilities with exposed lots. Large volumes of wash water are used, and in the area's northern reaches, farms are often located near streams and creekbeds—sites often chosen years earlier to facilitate drainage. Most existing runoff control facilities will not contain runoff from a major storm.

Up north. In the northern region, average investment in runoff control systems that meet EPA guidelines would cost $2,799 for a 15-cow herd, or $187 per cow. Larger dairy operations in this region face substantially lower per-cow investments. Investments per head to control runoff from 30-, 80-, and 150-cow dairies would average $69, $34, and $25 respectively.

In the southeastern region, where producers typically use large volumes of wash water and rainfall is heavy, higher investments per cow are expected. Per cow investments would vary from $44 on the 80-cow dairy to only $27 on the 500-cow operation. Dairymen with 15 cows would face a steep $193 per cow.

In the southwest region, per cow investments would range from $237 on the 15-cow operation to only $20 for 500-cow dairies.

The total investment required of the entire dairy industry would be borne by 40 percent of all dairy farms. Many of these are small, less efficient operations that might easily buckle under with the added financial burden.

Of the farms expected to have to install runoff control facilities, an estimated 90 percent could comply with EPA guidelines by constructing diversion ditches, settling basins, and holding ponds. However, up to 10 percent of the farms with problems might have to make major adjustments or relocate buildings—steps that could cost so much that these producers might decide to stop dairying.

Therefore, experts concluded that establishment of pollution control guidelines would hasten the trend to fewer and larger farms.

Cow count. Also of much concern

The sewage lagoon in the foreground serves as a temporary storage site for animal wastes and wash water from this dairy as well as a receptacle for storm waste runoff.

Animal wastes stored in runoff control facilities are commonly applied to fields with liquid manure spreaders.

is what will happen to milk cow numbers if a significant number of farmers drop out of dairying. The industry is already operating at full capacity and if cows are slaughtered, herd-building will take a number of years.

Thus, for the short term, establishment of pollution control guidelines could affect overall production. Supplies of dairy products would be considerably smaller than if no runoff control guidelines were imposed. As a result, prices of milk, butter, and cheese would rise sharply.

But over the longer run, the overall impact of runoff control measures on supply is expected to be slight as dairy production shifts increasingly to least-cost producing regions and those dairymen who make the added investments and remain in business begin adopting lower-cost technologies.

Fed Beef

Roughly 95 percent of our fed beef comes from feeding operations in 18 major producing States, and more than a fourth of those feedlots have runoff control problems.

Conforming to EPA guidelines would require these fed beef producers to invest about $133 million.

To assess the impact of runoff control, economists grouped the 18 States into two producing regions—east and west.

The eastern beef feeding States encompass the Corn Belt, Northern Plains, Lake States, and Northeast. The area is characterized by farmer-feeders—operators with a one-time capacity of less than 1,000 head—who usually have other farming enterprises such as feed grains and other field crops.

The western way. In contrast, output in the western beef feeding States (Southern Plains, Colorado, California, and Arizona) is dominated by commercial feeders with large, highly specialized feeding operations. Unlike farmer-feeders who produce most of their fed beef during the noncropping season, commercial beef feeders usually operate the year-round.

Close to 49,000 fed beef operations in the 18 States have surface water runoff problems. Some 95 percent are located in the eastern States where small lots predominate. And about 600 of the 1,800 lots with more than 1,000-head capacities were estimated to have problems controlling runoff.

Highs and lows. If the EPA guidelines were binding upon all cattle feeders, the highest per head investments would be borne by small fed beef operations with open lot systems located in the humid eastern beef feeding States. At the other end of the spectrum are large commercial feedlots located in the arid western States.

In the eastern States, investments in runoff control facilities to meet EPA guidelines would average $145 per head for operations with less than 100-head capacities. As lot capacity increases, investment per head tapers off. For a 100-199 head capacity, investments per head would drop sharply to an average of $21. And the average investment required for a 1,000-plus capacity lot is $3.

Nonetheless, there would be considerable variation among individual States in the eastern region. For example, a farmer-feeder with 100-199 head housed on an open lot would have to invest $47 per head in Ohio versus $19 in Nebraska.

In the western beef feeding States, investments for feedlots with less than 1,000-head capacity would vary from around $12 per head in Colorado to $30 per head in California. Investments in facilities for controlling runoff from the region's largest feedlots—capacities of 16,000 head and over—would range from less than $1 to $4 per head.

All things considered. Though compliance with proposed EPA guidelines would require the entire fed beef industry to invest some $133 million, this is not a large sum when compared with existing investments in production facilities and annual

A dairyman washes waste into an entrance pipeline leading to a lagoon system. Effluent will eventually be pumped from the lagoon to nearby cropland and spread over fields with irrigation pipe to maintain soil fertility.

Solid wastes from this cattle lot decompose naturally—and with a minimum of odor—at the bottom of this anaerobic pond. Below, workmen build an impermeable tank designed to store as much as 53,000 gallons of liquid manure. (Photos courtesy of USDA Soil Conservation Service.)

gross receipts of more than $10 billion.

Since larger operations would incur lower investments per head for runoff control facilities, most big capacity feedlots with surface water problems would be expected to adopt control measures.

Nonetheless, many small eastern producers could be forced to call it quits. Almost 70 percent of the total investment would fall upon small farmer-feeders in the eastern States whose lot capacities are less than 100 head.

Annual costs on these low-volume operations would be upped by about $21 per head. This translates into a rise in production costs of about $4 per 100 pounds of gain.

Minimal impact. Even though a number of small producers could be forced out of business, experts see little effect on beef prices or total beef supplies. Feeder animals previously headed for these low-capacity lots would go to bigger operations where capacity already exists or could be added with nominal effects on production costs.

As in the dairy industry, however, compliance with EPA guidelines would probably hasten the regional and structural trends already present in the fed beef industry. We could expect to see larger-capacity beef feedlots growing in relative importance as a source of beef supplies.

Hogs

Nearly 1 of every 5 hog farmers in our leading pork producing States is estimated to require surface water control facilities to meet EPA guidelines.

The top hog States number 15, are situated in the North Central and Southeast regions of the U.S., and produce about 90 percent of the country's pork. The farms with runoff problems number about 112,000.

Meeting EPA guidelines for controlling surface water runoff could require initial investments of up to $254 million and increase annual costs as much as $36 million for the hog industry.

In analyzing the impact of pollution abatement measures on the Nation's hog industry, economists noted that most hogs, unlike fed beef cattle and poultry, are produced primarily on small enterprises on crop-livestock farms.

According to the 1969 Census of Agriculture, roughly three-fourths of all hog producers in the 15 States marketed fewer than 200 hogs, though they accounted for a third of all hogs sold. Another third of all hog marketings came from farms selling 200-499 head per year.

Few large producers. Only 1 percent of producers sold 1,000 head or more but accounted for 12 percent of output. Nevertheless, average annual sales from all farms amounted to only 155 head.

Only a fifth of the producers in the two smallest categories (1-99 head and 100-199 head) were estimated to have uncontrolled runoff. Even so, these producers numbered 66,000 and accounted for 60 percent of the farms with problems.

Producers with annual sales of 200-499 head were singled out for special attention. They numbered 95,000 and a third were estimated to have uncontrolled runoff from their production sites. These farm-

(Continued on page 8)

ers produce more than a third of all hogs.

Total investment. Economists found that meeting EPA guidelines would require an estimated investment of $254 million. About $197 million, or 80 percent of the total investment, would be in the Corn Belt and Lake States.

The Southeast States would have to spend $31 million, and the Plains States, $25 million. Even though the Plains States market more hogs, higher costs would fall on the Southeast because of its humid climate.

As for individual producers, investments would fall heaviest on low-volume operators. Investments would range from $61 per hog on the smallest operations—those selling fewer than 100 head annually—to $4 per hog for farmers selling more than 1,000 hogs per year.

Annual costs per 100 pounds of pork sold would run $4.24 for the smallest producers—vs. 26 cents for the large-volume operators. While these costs vary somewhat among regions, the differences fail to give any region an economic edge.

Hastening trends. Current trends in the hog industry are toward larger operations in confined feeding quarters. When properly managed, these systems appear to be the most efficient and the easiest in which to control runoff. Adoption of pollution control guidelines would doubtless hasten current trends.

Roughly three-fifths of the farms with runoff problems in the 15 States are small-volume producers with high unit costs. The added investments for pollution abatement measures could force many of these small operators out of the hog business. More than four-fifths of the total added investment would be borne by producers selling fewer than 500 head per year.

In the short run, consumer prices for pork would rise, since pork supplies would tighten if large numbers of small farmers decide to call it quits.

Pork prices would continue high until the remaining producers could up their output. In the longer run, however, supplies would rebound and prices would retreat to levels near those that would have existed had there been no runoff control measures.

[Based on manuscripts entitled Economic Impact of Controlling Surface Water Runoff from U.S. Dairy Farms, by Boyd M. Buxton, Commodity Economics Division, and Stephen J. Ziegler, University of Minnesota; Economic Impact of Controlling Surface Water Pollution from Fed Beef Operations, by James B. Johnson, Gary A. Davis, J. Rod Martin, and C. Kerry Gee, Commodity Economics Division; and Economic Impact of Controlling Surface Water Pollution from U.S. Hog Production, by Roy N. Van Arsdall and Richard B. Smith, Commodity Economics Division, and Thomas A. Stucker, University of Illinois.]

Good Year Coming Up for Farm Finances

The financial prospectus of farm operators in 1973 was the rosiest in decades, and 1974 should be almost as good.

Net farm income in 1974 is figured in the range of $20 to $23 billion—second only to last year's record-setting $25 billion-plus. Farm output will rise again but this will be more than offset by lower direct Government payments and higher production costs.

The balance sheet of agriculture also shows farmers to be in a strong financial position. Total assets on January 1, 1975, could reach as much as $498 billion assuming interest rates moderate in 1974. If realized, this would be 10 percent more than on January 1, 1974, when estimated assets came to a record $454 billion. Increases in farm real estate values are a major factor in the rise.

Loans outstanding next January 1 are projected at $90-$92 billion, depending on interest rates charged on new loans in 1974. Farmers' and landlords' equities are expected to increase about 9 percent over 1973.

The ratio of debt to equity—another indicator of financial well-being—is forecast at 23 percent on January 1, 1975, 2 points higher than at the start of this year.

The cost of borrowing will stay relatively high in 1974. However, the supply of loan funds—from banks, production credit associations, and other lenders—will be ample.

Interest rates will be in part determined by monetary policies of the Federal Reserve Board. Under a tight money policy, 1974 interest rates may average 8½ percent on farm mortgage loans and 9 percent on short- and intermediate-term loans. A less restrictive monetary policy may result in lower rates of 8 and 8½ percent, respectively.

Capital formation in the farm sector in 1974 is forecast between $25.6 and $27.2 billion, the higher figure being the case with interest rates at 8 and 8½ percent. Capital formation in 1973 was $25.8 billion.

An important element in the loan picture this year is the 1972 Rural Development Act, administered by the Farmers Home Administration. The act provides for guaranteed loans by recognized agricultural lenders for business and industrial purposes, farm operations, emergencies, and farm real estate purposes in rural areas.

In the farm mortgage picture, the Federal land banks can be expected to provide funds by borrowing from central money markets at interest rates higher than in 1973 but probably below the high level reached in the third quarter.

Insurance companies will have less money available in 1974. Their shortage, however, may be made up by individuals and the Federal land banks, which are close substitutes as sources of funds.

The smaller commercial banks are likely to find that more of their loan requests exceed their lending limits, and will be turning to larger banks for assistance.

[Based on *Agricultural Finance Outlook*, December 1973, by Philip T. Allen, John B. Penson, Jr., Robert D. Reinsel, David A. Lins, J. Bruce Hottel, and William D. Crowley, National Economic Analysis Division.]

Farm Suppliers

Mighty link in the marketing chain

With more and more of farmers' inputs being provided by other industries, farm suppliers play an increasingly dominant role in the performance of U.S. agriculture.

An often overlooked fact about agriculture's marketing system is that the farm gate swings two ways. It not only lets out farm products but also lets in the ingredients needed to produce those products in the first place.

And the inbound traffic is picking up. Latest estimates for 1973 show farmers bought goods and services worth $64.5 billion, up from $23.6 billion in 1960 and from $19.4 billion in 1950.

As a share of all materials used by farmers, purchased inputs increased from 42 percent in 1950 to about 65 percent in 1973.

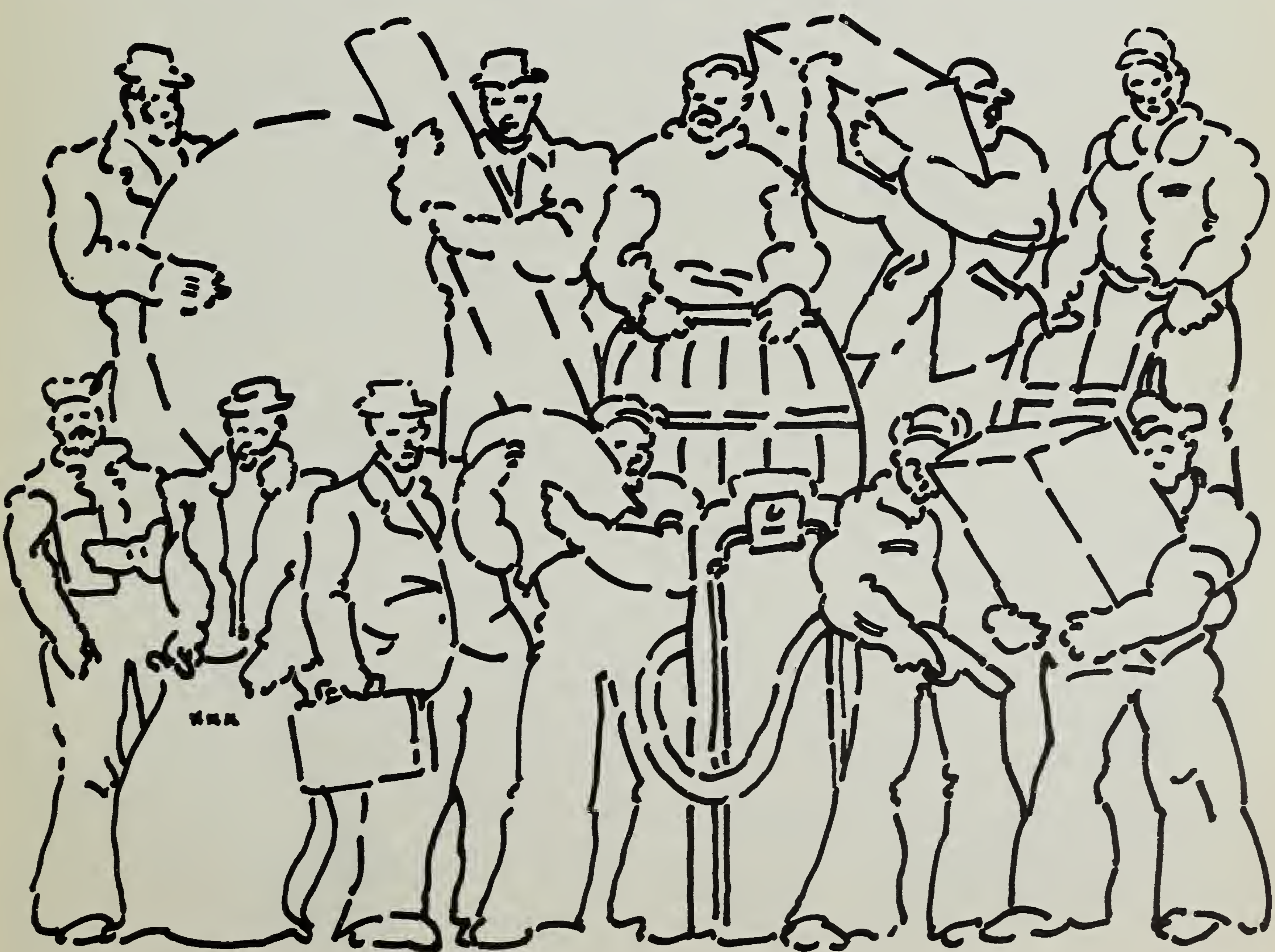
This growing dependence on nonfarm industries has prompted ERS economists to sharpen the focus on the farm supply sector in their research work. Inputs are now regarded as one of the three key subsectors of the food and fiber system along with the farm subsector and the product market subsector.

Together the three subsectors had an output value of approximately $230 billion in 1973, including exports. The farm input industries accounted for over a fourth of the total.

What are these industries . . . how are they structured . . . and how does their performance reflect on farmers?

Starting with the manufacturers of farm machinery and equipment, they number about 1,500 firms. Yet this is a concentrated industry, with just seven firms producing half of the farm equipment. Machinery imports have compensated somewhat for this lack of competition.

Nevertheless, some economists believe this industry could be more



responsive to farmers' needs. There is room for improvement in manufacturers' pricing practices, supply strategies, and in the rate at which they release technological advances to agricultural producers.

Machine's impact. Needless to say, farm mechanization has had a tremendous impact on farm productivity as well as on agricultural employment. The number of farmworkers, including operators and their families, has declined by more than half since 1950. (The entire food and fiber system, however, still employs 16.5 million or about 20 percent of the total U.S. labor force.)

Turning to the fertilizer industry, competitive forces are quite strong, especially among the estimated 5,000 local outlets. But fertilizer manufacturers are hurting from the energy crisis.

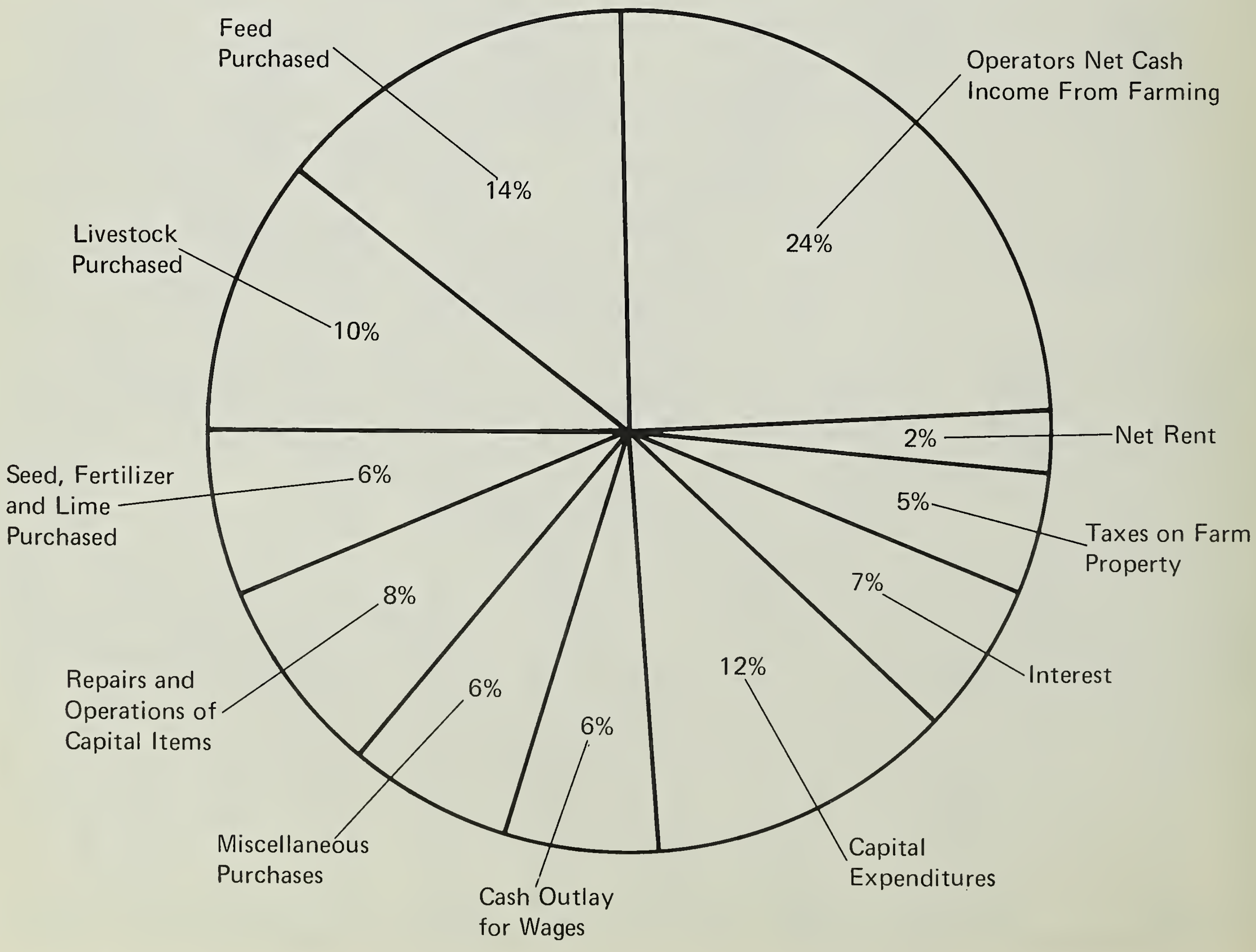
Fertilizer makers require natural gas to produce ammonia for nitrogen fertilizers. Prices for nitrogen fertilizer can be expected to rise at an accelerating rate if natural gas stays in tight supply.

Some of the price spurt, however,

ABOUT THREE-FOURTHS of the farmer's cash income goes to pay his production expenses—for inputs, services, interest, taxes, and rent. In 1972 the biggest outlay was for feed, claiming 14 percent of total cash receipts. Feed costs were followed closely by the outlay for capital items—12 percent—which includes expenditures for buildings and machinery used in the farm operation.

Out of the consumer's food dollar, the farmer received about 34 cents, and of this, he kept 8 cents for his labor, investment, and management. He spent the remaining 26 cents to buy inputs, hire additional labor, and to pay interest, taxes on farm property, and rent.

CASH RECEIPTS FROM FARMING . . . WHERE THEY WENT IN 1972



could be offset by greater efficiency. One study sponsored by ERS at Michigan State indicated fertilizer costs to farmers could be cut by as much as 25 percent through more efficient mixtures and distribution.

Problems in pesticides. Pesticide manufacturers also depend partly on petroleum but their big worry—not to mention farmers' concerns—is the stiffer guidelines and restrictions imposed on pesticide use. The regulation of chemicals by the Environmental Protection Agency and other Federal agencies will have a severe impact on pest control and it will affect the usefulness of specific pesticides.

Feed concerns. Feed manufacturing, unlike other input industries, uses raw materials produced mostly in agriculture. Much of this feed is grown and consumed on the same farm. The portion of feed manufactured by a separate nonfarm industry, however, has been growing.

Feed firms currently number about 13,000 and the top 20 firms account for about 30 percent of industry sales. This is not a high degree of concentration but the majority of these 20 firms do business in relatively small geographic areas. Thus it may be that farmers in some places have limited choices among feed suppliers.

Farmer cooperatives make an important contribution to the feed industry. They handle about a fifth of all the commercial feed business, besides providing improved services and helping to increase the competition among manufacturers.

Transportation. Of all the input industries, none binds them together more than the transportation industry. But because agriculturally related traffic accounts for less than a fifth of all freight traffic, agriculture's requirements often receive low priority in decisions made by the transportation sector.

Major issues center on the availability of freight cars to deliver fertilizer and haul grain to export terminals. Also worrisome has been the abandonment of rail lines serving elevators, farm supply firms, and other rural industries. These longstanding difficulties are now compounded by prospects of major fuel shortages.

While transportation is the physical linkage among the elements of the food and fiber sector, finance is the economic lubricant. As of January 1, 1974, debt associated with assets of the farm production sector totaled $80 billion, or 18 percent of the value of total assets. This was up from only $12.4 billion, or 9.4 percent of total assets, in 1950.

In recent years the Federal land banks and production credit associations—farmer-owned cooperatives—have come under fire from commercial banks and insurance companies, which contend that breaks in taxation and regulations give the co-ops a competitive edge.

Federal land banks, for example, are exempt from interest ceilings imposed by many States but insurance companies are required to comply with these statutes. Rather than loan money for less than the market will pay elsewhere, insurance companies divert their funds to unregulated markets.

Problems of some commercial bankers in getting loan funds have been eased in recent years by a policy that allows the banks to borrow on a seasonal basis at Federal Reserve discount windows. This has made added funds available to agriculture in periods of peak demand.

Another input industry of importance to farmers is one which sells specialized services such as management and technical advice. Little is known about this industry, although in the last agricultural census some 32,000 firms reported their primary business to be the supplying of services to farmers. Their gross receipts in 1969 came to more than $2 billion.

[Based on "Economic and Marketing Factors in Agricultural Production," paper by William T. Manley, National Economic Analysis Division, presented at the 31st Annual Professional Agricultural Workers Conference, Tuskegee Institute, Alabama.]

Transportation Snags Let Up for U.S. Grain, Soybean Exports

Snarls on the domestic scene but relatively clear passage for grains and soybeans destined for export. That was how the transportation picture looked for these farm products at the start of 1974.

ERS transportation experts said that barring unexpected problems—such as a worsening of the fuel crisis—the record exports of wheat, feed grains, and soybeans could be moved over the 12 months ending June 30, 1974, with fewer snags than in 1972/73.

As of early December, one-half of the expected fiscal 1974 exports had been moved, compared with about two-fifths in the same period of fiscal 1973. The export shipment rate in the last half of fiscal 1974 will be about 20 percent lower than in the first half, if export projections are not changed.

Although grain and soybean movements were at record levels in the first half of fiscal 1974, demand for transportation outstripped the supply. Because of higher production this year, high current prices, and future price uncertainty, farmers desired to market record quantities of grains early in the season.

The transportation system, already operating close to capacity, was unable to meet the seasonal surge in demand.

The backlog of unfilled transportation demand implies a continuation of shortages into the second half of 1974. However, the expected decline in export movements will reduce demand and this may ease the shortage in the latter part of the fiscal year. But farmers in some areas may have to store a large share of new production on the farm until country points can be cleared.

[Based on an article by D. E. Umberger and T. Q. Hutchinson, National Economic Analysis Division, "Grain and Soybean Transportation Problems in Fiscal 1974," *Marketing and Transportation Situation*, MTS-191, November 1973.]

ERS ADMINISTRATOR QUENTIN M. WEST went to Moscow this past November to head up one of two working groups participating in the first session of the U.S.-U.S.S.R. Joint Commitee on Cooperation in Agriculture.

It was a landmark event as far as agricultural economists are concerned. For years the two countries have been exchanging information in the area of scientific research in agriculture. But beginning with the November meeting, for the first time this cooperative effort includes an exchange of information in the field of economic research.

The working group that Dr. West headed was on Agricultural Economic Research and Information, and it will meet twice a year starting in 1974. The other group was on Agricultural Research and Technological Development.

Here, interviewed by The Farm Index, Dr. West reports on his trip to Russia.

MEETING IN MOSCOW

FARM INDEX: *Dr. West, according to a summary of the meetings you attended, the U.S. receives only about half as much information on Soviet agriculture as it gets from other countries. What good is this information to us? How do we use it?*

DR. WEST: It's very important for us to know what's happening around the world in agricultural production and trade, so that we can plan our own production and exports. This becomes particularly crucial now that we no longer have a large surplus of stored commodities to act as a buffer against changes in agricultural production in other countries. We do not have a support price at which our price stays. Our prices, therefore, are very sensitive to world conditions.

Now, in the case of the Russians, in previous years they were not a major element in the world trade in importing grains except back in the middle sixties, when they bought considerable grain from Canada and some from us. But as everyone knows, they entered the market very heavily this past year. So it's important to find out what their future intentions are.

FARM INDEX: *What kinds of information are we most anxious to get from the Russians and what did they agree to provide?*

DR. WEST: This information is of two types. First, we wanted more complete and more rapid information on what they have recently done in terms of planting and harvesting the past crop. There is a delay of many months, and sometimes a year or more, before we get some of this information. We only get trade figures once a year, and we get no monthly trade data whatsoever.

Secondly, we wanted to have better information on current crop conditions so that we would know what the outcome of the current crop would be.

FARM INDEX: *Is this flow of information going to begin immediately?*

DR. WEST: They have agreed to give us about 10 different categories of information on the crop just completed and on livestock production. This flow should start immediately. In fact, it already has started because in the week we were there after the conference we received some information that had never been available to us before. But in February, they're supposed to give us additional information, so this flow should start on a formal basis this month.

Now on current conditions, we have not been able to initiate a formal flow of that kind of information. However, the Soviets have agreed to sit down with us on a semiannual basis and discuss their crop and livestock conditions and their trade prospects.

The real test of that will come in April or May when the next meeting of this working group in agricultural economics is going to be held here in Washington. The Russians have also agreed to try to bring someone over from the Ministry of Foreign Trade.

They are quite sensitive about trade information, and on our recent visit we did not get the monthly trade data which we had asked for. We also did not get information on stocks. That is a very closely held secret in the U.S.S.R.

FARM INDEX: *Why are the Soviets so reluctant to supply this type of data?*
DR. WEST: Well, the whole Soviet economy operates much the same as a large corporation here in the U.S. They feel that with this closed corporation type of operation, it's giving away their secrets and their plans if they tell what stocks they hold. One response of theirs was that a company like Continental Grain is not going to reveal how much grain stocks it has.

FARM INDEX: *But you still feel that what they have agreed to provide will help close the gap in quality of information we now receive from the Soviet Union.*
DR. WEST: There's no question that the signing of this agreement appears to be the beginning of a more open attitude on the part of the Russians in terms of this kind of information.

We spent the week after the conference trying to trace the generation and flow of information. We visited a state farm and a collective farm to learn what kind of records they keep and what kind of reports they make. We followed this through to the regional and republic levels and then to the all-Union level.

We had the opportunity to visit eight U.S.S.R. and Russian Federation agencies, including the Ministry of Procurement, the Central Statistical Office, and the Central Planning Office. These last two agencies have never been visited by one of our attaches. We learned a great deal more about the whole statistical system than we had ever known before.

FARM INDEX: *How does their statistical gathering compare with ours, and is it indeed comparable?*
DR. WEST: It's quite a different situation. In fact, even the definitions come out differently.

For example, when we say "forecasting," we mean we are advising our farmers and the agribusiness system as to what's going on in agriculture so they can make individual decisions. The Russians say the nearest they come to that is what they would call planning. They make the annual plan and everyone is expected to follow that plan.

Each farm knows what it has to produce and what it has to supply to the Ministry of Procurement or the Ministry of the Food Industry. Each farm must fill a quota each year. If they have problems, like winterkill of the winter wheat, they need to make it up with additional production of spring crops.

As long as each farm knows what it's supposed to do, there's no need to advise the individual farms on what's happening on a national level. As a result, there is not generated and not made available the type of information that we feel is necessary in the U.S.

They even have a little different definition of information. They think that the data which are generated from each of the farms, and which move up through the system, are management data. It is not considered public information as we think of the term.

FARM INDEX: *So generally, the planners in the U.S.S.R. dictate to the farmers what they're to plant.*
DR. WEST: That's right. The decision to import or export is also made by a very few people at the top. It was hard for us to really pin down where that decision is made. And it was hard to tell just what kind of information flowed into making that decision. In the U.S., that kind of information has to be made known very broadly, because these decisions are made by a couple of million farmers and thousands of buyers, exporters, and people concerned with the agribusiness system.

FARM INDEX: *If an exchange like the one we're discussing had been in operation last year, do you think we would have had better information, say, on the extent of the 1972 Soviet crop failure?*
DR. WEST: I think we had good information on the

"There's no question that the signing of this agreement appears to be the beginning of a more open attitude on the part of the Russians in terms of this kind of information."

Red Square and St. Basil Cathedral in Moscow.

crop itself. And our estimate of how much of a shortfall they were experiencing was not too far off. In fact, when we were pushing to get better information on current crop conditions, they said: in 1972 you estimated it very well, so you must have all the information you need.

The thing that we didn't know was what kind of a decision they would make in responding to that shortfall. Historically, they have tightened their belts.

Back in the sixties they slaughtered much of their livestock, rather than spend scarce foreign exchange to buy grain to feed their livestock. They had a shortfall of about 30 million tons in 2 different years in the mid-sixties, and they bought only 9 to 10 million tons each year. But in 1972 they reported a shortfall of 22 million tons, yet they bought almost 30 million tons.

From past experience there was no way that we would expect that they would purchase so much grain with that level of a shortfall. Now, if we had been having these semiannual meetings, and if they would have discussed a little more freely what their intentions were, then this could have been avoided.

FARM INDEX: *If we had been having these semiannual meetings back in 1972, do you think that the Russian wheat deal would have gone through at the subsidized price of $1.63-$1.65 a bushel?*

DR. WEST: I'm not that optimistic that they are going to tell us all they know, and all they are planning to do. Going back to what happened in 1972, however, I think we have to put it in perspective.

We had a surplus of grain. We were anxious to move that grain into the world market. Our attitude then was to sell wherever we could and to sell to anyone that we could, because it was costing us millions of dollars to keep this grain here. And it was depressing farm incomes. Our interest was to sell grain abroad.

We had no idea the U.S.S.R. was going to buy so much. I'm quite sure that if we had known that the sale

After grains, one of the U.S.S.R.'s most important crops is cotton, usually among the top two agricultural commodities in terms of exports. Russia is also the world's second largest cotton producer (U.S. is first) and it plans to expand production even further.

Tractors on state farm Gegaut, which translates "giant." Gegaut has approximately 125,000 acres of cropland, plus 31,000 hogs and 8,000 head of cattle.

Signing the June 16, 1973, agreement to set up the U.S.-U.S.S.R. Joint Committee on Agricultural Cooperation—Andrei A. Gromyko, Soviet Minister of Foreign Affairs, and Earl L. Butz, U.S. Secretary of Agriculture.

was going to be as large as it was, we probably would have changed our plans on subsidy for such a large sale.

FARM INDEX: *Some news reports have said that the Soviets got the wheat and the U.S. got the chaff. Do you feel that's true?*
DR. WEST: No, because it's been one of the elements that increased net farm income last year to over $25 billion, by far the highest on record. It's also been an element in changing our whole agricultural policy, making it much more free from Government control, making it much more market oriented.

FARM INDEX: *The Russians have also indicated interest in American agribusiness. They want the benefit of American know-how in organization and management. Why is there this sudden interest on the part of the Russians to find out about American agricultural production and processing?*
DR. WEST: The whole agriculture system in the Soviet Union is still quite inefficient. Although they've made tremendous progress in the past 50 years in increasing agricultural production, it does not compare to the efficiency that we experience in the U.S. They feel that a lot of this is the association between agribusiness and the farm itself. And so they're interested in increasing their efficiency by tying in farms that fatten livestock, for example, with farms that are going to produce the feeder cattle, also with farms that are going to produce the feed, and with the slaughterhouses and so on.

FARM INDEX: *We can see what the Soviets would gain from all this, but what's in it for the U.S.?*
DR. WEST: Of course, our agribusiness community is interested in selling their know-how abroad. They expect to get paid for this. But this kind of operation will also help us in terms of demand for some of our feed products.

The U.S.S.R. plans to increase substantially the supply of meat to its consumers. That's one of the reasons the Russians did not permit the slaughter of livestock during this crop shortfall, rather, to buy grain to tide the livestock over this drought period. They don't have enough livestock products available for their consumers. They are consuming about 52 kilos of meat products per capita, whereas we are consuming about 120 kilos per capita. They expect to increase this to 85 kilos by 1990.

We tried to find out what their plans were in relation to raising feedstuffs—grain and oilseeds—to feed this increased livestock. They do not have their plans developed but should have by 1975.

However, there were many indications when we talked to officials in the different agencies that they could hardly afford the tremendous investment in irrigation in the areas where temperature is suitable for

"The whole Soviet economy operates much the same as a large corporation here in the U.S. They feel that with this closed corporation type of operation, it's giving away their secrets and their plans if they tell what stocks they hold."

raising feed grains when they could buy feed grains at reasonable prices from the U.S.

FARM INDEX: *So you believe that over the long term this will mean a much larger market for U.S. soybeans and feed grains.*

DR. WEST: That's very true, and of course that's been a part of our program around the world . . . to assist in increasing the consumption of livestock products because it means so much to our feed grain and oilseed producers.

Now you may say, how can we think of that in terms of the shortage of grain at the present time? As we look down the road, we don't really see shortages around the world. There will be hungry people because there's a shortage of income.

But we feel that given fairly good weather there will be an ample supply of food for the world. For those people who want and can afford to eat meat, there will be sufficient grain produced, in the U.S. particularly, to supply that feed requirement.

FARM INDEX: *Was there any discussion of current Soviet production, the condition of the grains, for example?*

DR. WEST: Yes. Brezhnev had announced previously they had a record 1973 crop of more than 215 million tons of grain, which is much more than they had expected.

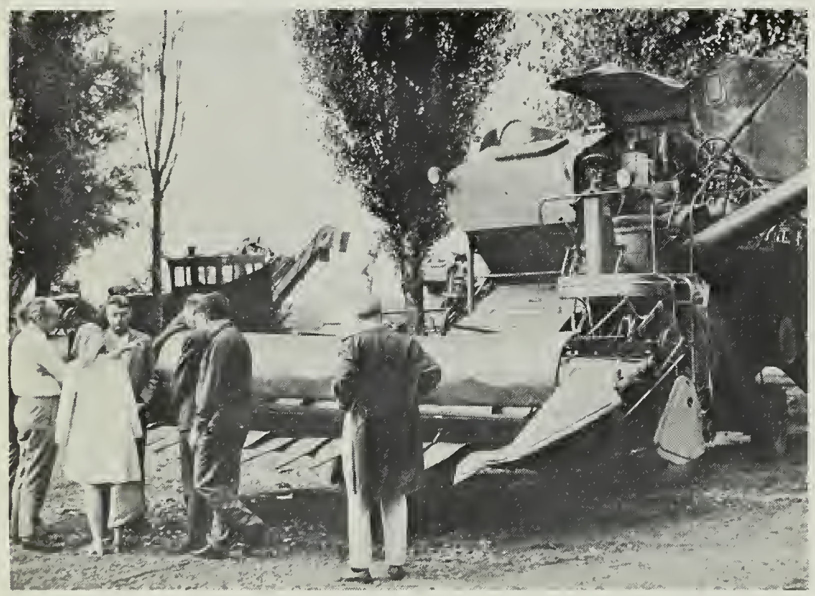
Still, they will be importing some this year from purchases they'd made the previous year. So they should be able to add to their stocks. For the next crop there was a relatively favorable beginning. The fall grain planting went well and went into the winter in good condition. How good a harvest they have will depend a lot on how the winter goes, plus the weather effects next spring and summer on both winter and spring grains.

FARM INDEX: *Are there limits on the extent to which we should cooperate with Russia on the agricultural front?*

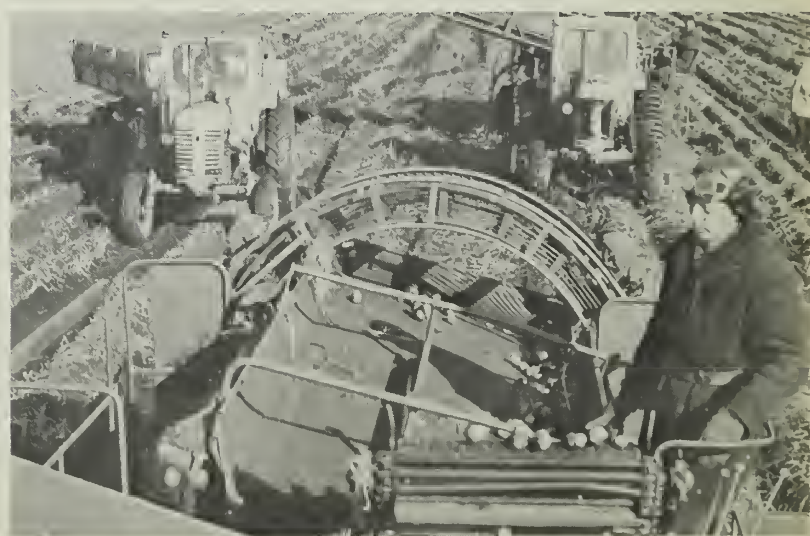
DR. WEST: That's the sixty-four dollar question. I would say that more and more we're moving into a world economy, that we must have open relations with all the countries of the world, not only Russia, but also with China. I think that the more we can cooperate in terms of exchange of agricultural information, of science and technology—that of course was the other side of this cooperative effort—the better it will be for both us and the Russians.

We do, on the other hand, have to have assurance from them that they'll respect our patent rights. We just can't give away the things we've developed without some benefit to our private industry.

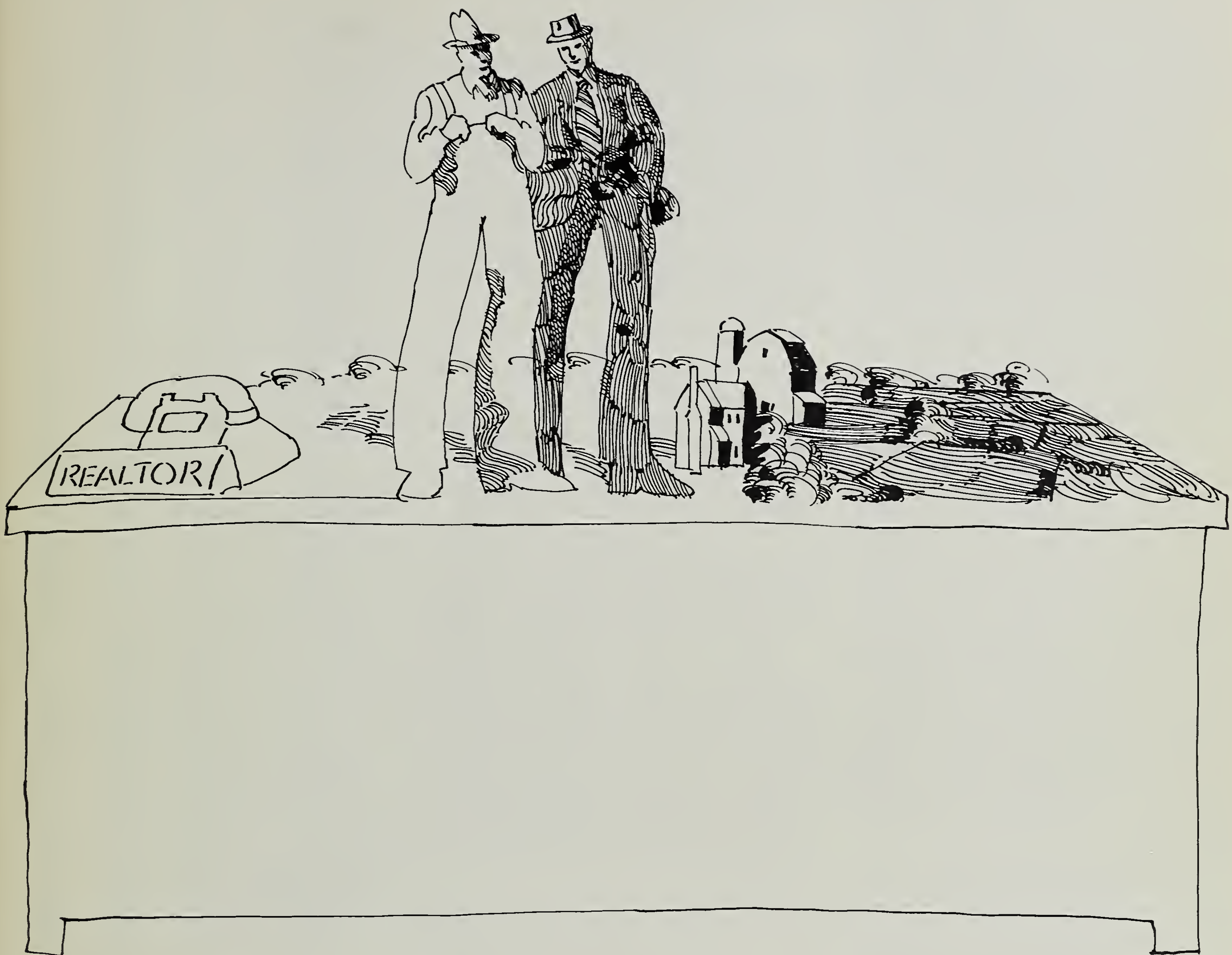
This combine on a collective farm is used to harvest sunflowerseed, of which the U.S.S.R. is the world's leading producer. U.S. exporters closely follow the Soviet sunflower crop since it competes in international markets with our oilseed products.



Agricultural economists inspect plowing operation on one of Russia's state farms. The U.S.S.R. has 555 million acres of cultivated land, over 40 percent more than the U.S.



Potatoes are a main dietary staple of the Soviets, providing 8 percent of total caloric intake. Their per capita potato output is about 6 times ours.



About half our farms are fully owned by the operator, but those that are partly or fully rented make up 7 out of 10 farm acres and two-thirds of the total market value of land and buildings.

There is a strong and continuing trend toward larger farms in this country. These larger farms contain a great deal of rented land—and will likely contain much more in the future.

In a recent study of farmland tenure patterns, an ERS economist points out the close connection between farm size and rented land.

His study, based on the 1969 Census, shows about 3 out of 4 acres of rented land in farms are in the upper 20 percent of farms by acres size class. In contrast, the smallest half of the farms contain less than 8 percent of the rented land.

While more than 3 out of 4 operators of farms of 2,000 acres or more reported that they rented some or all of their land, only a third of the operators of farms of under 100 acres reported renting any land.

Overall, about 38 percent of all farmland is rented. This varies by region from about 20 percent in the Northeast and Appalachian States to more than 40 percent in the Corn Belt, the Northern and Southern Plains, and parts of the Mountain and Pacific regions.

Rented land made up the majority of the acres farmed by farm operators under 25 years old. In the Corn Belt, these young farmers rented 3 out of 4 acres that they operated.

At the other end of the spectrum, farm operators 65 years of age and

older in the eastern half of the country rented a fifth or less of the land they operated . . . and a third or less in most Western States.

In terms of farms grouped by value of sales, the study found that 46 percent of the land in Class I farms was rented. These farms—with sales of $40,000 or more a year—frequently were composed of land rented from more than one landlord. On the other hand, Class V farms—those with sales of $2,500 to $4,999 a year—had 28 percent rented land.

Nearly 7 out of 10 farms with sales of $2,500 to $4,999 were operated by full owners. Larger farms depended much more on rented land. Less than a third of the farms with sales of $40,000 or more were operated by full owners.

Throughout the country, the major share of the rented farmland was operated by part owners—people who own part of the land they farm. In only two States in the Corn Belt did full tenants—who own none of the land they operate—rent a greater portion of the total rented land in the States than part owners, and both these States had intensive cash crop farming.

In the past 20 years, part owners have increased the share of land they rent from less than one-half of the total rented land to roughly two-thirds.

In most States, more than 4 out of 5 acres of rented farmland are owned by nonoperator landlords—persons who do no farming on their land. Only a small amount is rented from other farm operators. In total, this amounts to about a third of the market value of real estate assets. By State it varies from 8 percent in Maine to 52 percent in Illinois.

The majority of these landlords appear to be retired farmers, members of farm families, or rural residents in some other way closely associated with agriculture.

In a closer look at farmland—by who operates it—the study showed that full owners operate about half of all farms with sales of $2,500 or more a year. However, these farms account for less than 30 percent of the total farmland—as shown in the table at right. By State, this varies from less than 7 percent in Arizona to more than 62 percent of Kentucky farmland.

Part owners operate a third of the farms but 58 percent of the land in farms. In all regions of the country, part-owner farms were considerably larger than fully owned farms. The size difference was more extreme in the West where part-owner operations tended to be more extensive land use operations and full-owner farms smaller and more intensively used.

Part-owner operations were also found to control substantially greater real estate assets than full-owner or full-tenant operations. In most States outside the West, land in part-owner farms has a higher market value because of a higher percentage of cropland. In general, part-owners and tenants rely more on crops, and thus need a higher quality land base than full-owner operations, which often are specialized livestock units.

Overall, farms that were either partially or fully rented accounted for 60 percent of all cash receipts of farms with sales of $2,500 or more. Part-owner farms are the largest in terms of average annual gross receipts from farm marketings, and full-tenant farms are second in most regions.

The study also found that leasing was particularly important in cash grain farming—which is concentrated in the Corn Belt and Northern Plains. Of those cash grain farms with sales of $40,000 or more a year, nearly 3 out of 5 acres were rented. And of those in Class II and III—farms with sales of $10,000 to $39,999—more than half the acreage was rented. Only 10 percent of cash grain farms with sales of $40,000 or more were operated by full owners.

[Based on a manuscript entitled Farmland Tenure Patterns in the United States—1969 by Bruce B. Johnson, National Economic Analysis Division, at Michigan State University.]

FARMLAND—DIVIDED UP BY TYPE OF OPERATOR*

Region & State	Full Owners	Part Owners	Tenants
	Percent of total farmland		
Northeast	**49**	**44**	**7**
Maine	60	38	2
N. H.	50	47	3
Vt.	53	44	4
Mass.	46	50	4
R. I.	43	43	14
Conn.	36	57	8
N. Y.	49	47	4
N. J.	39	46	16
Pa.	51	41	8
Del.	32	55	13
Md.	43	40	18
Lake States	**48**	**42**	**10**
Mich.	47	47	6
Wis.	60	32	8
Minn.	42	46	12
Corn Belt	**36**	**43**	**21**
Ohio	38	45	17
Ind.	34	49	18
Ill.	25	46	29
Iowa	34	39	26
Mo.	48	41	11
N. Plains	**21**	**65**	**14**
N. Dak.	25	65	11
S. Dak.	21	68	11
Nebr.	22	60	18
Kans.	17	67	16
Appalachian	**54**	**37**	**9**
Va.	52	41	7
W. Va.	61	35	4
N. C.	45	43	12
Ky.	62	28	10
Tenn.	54	38	8
Southeast	**50**	**43**	**8**
S. C.	42	51	7
Ga.	53	40	7
Fla.	52	38	10
Ala.	46	47	7
Delta States	**37**	**48**	**15**
Miss.	41	49	10
Ark.	37	45	18
La.	32	51	17
S. Plains	**28**	**55**	**18**
Okla.	26	62	12
Tex.	28	53	19
Mountain	**16**	**75**	**9**
Mont.	16	77	8
Idaho	30	61	9
Wyo.	9	83	8
Colo.	21	70	10
N. Mex.	15	75	10
Ariz.	7	84	10
Utah	25	72	3
Nev.	20	56	24
Pacific	**24**	**62**	**14**
Wash.	18	68	14
Oreg.	30	63	7
Calif.	23	59	18
48 States	**29**	**58**	**14**

* 1969. Includes farms with annual sales of $2,500+. Percents are rounded.

Energy Crisis: What It Could Mean to Rural Areas

Nonmetro counties weathered the 1969-70 economic downturn far better than the metro areas. They also rebounded more swiftly and more vigorously during the good years of 1971-73.

As for 1974, one ERS economist expects that nonmetro areas will again have sizable employment increases but that the number of new jobs will hinge mainly on the impact of three forces:

√ General softening of the economy now underway.

√ Increasing pinch on industrial capacity and resulting shortages in many materials and supplies.

√ And, last but not least, the energy crisis.

Jobs vulnerable. Recent rural job gains are especially vulnerable because of high dependence on gas and other fuels for production, transportation, and for the movement of people to jobs, shops, and so on. And, many communities could be hard hit because they depend largely for jobs on plastic and other local industries that rely heavily on oil and gas for feedstocks.

If fuel shortages persist or worsen, and prices climb, these industries in particular are likely to feel the squeeze: petrochemicals, leisure-time products, recreation and resort enterprises and nonfood retailing.

In addition, some economists think that tight money will keep 1974 housing starts at a relatively low level, whether or not the industry faces fuel and related shortages.

Brighter side. There are bright spots, however. The following industries will probably benefit in 1974 and succeeding years from the energy crunch: paper and paper products; coal mining; drilling for oil and gas; and industrial construction.

Projected allocations of fuel are expected to assure production, processing, and marketing of increased food supplies in 1974.

The impact of the forces mentioned earlier is already being felt in upward and downward shifts in output and employment.

√ Mining employment in December 1973 was about 39,000 greater than a year earlier.

√ Construction was started on scores of major generating, gasification, manufacturing, and other new plants in 1972 and 1973.

√ The annual rate of housing starts in December 1973 was almost 739,000 units lower than August 1973.

√ Production of synthetic fibers may have dropped as much as 20 percent in the last quarter of 1973.

√ As many as a third or more of employees in plants producing recreation vehicles have been laid off since the spring of 1973.

In brief, here is the situation facing key rural industries, beginning with those for which the outlook is less promising:

Petrochemicals. Special priorities may be needed to prevent serious shortages in drugs and medical and surgical supplies. Increased feedstocks would appear to be required to reverse sharp cutbacks in production of polyester, dacron, and other synthetic fibers.

Also required to restore output would be expanded supplies of propane, both for fuel and as a curing and finishing agent.

Leisure-time products. Sales of recreation vehicles, pleasure boats, and other leisure-time products could be expected to plummet if fuel shortages persist.

Recreation and resort industry. Barring a sharp upturn in gas supplies in the next few months, the brunt of the shortages—borne up to now by winter sport centers—would be expected to shift to summer vacation spots, as well as to the motels, restaurants, and other facilities serving vacationers en route.

Nonfood retailing. Sales forces would be expected to shrink a bit, especially if the economy loses momentum, rising prices take an increasing portion of the consumer's dollar, and families are forced to shop less often because of gas shortages.

Moving to industries with better prospects:

Paper and paper products. Demand for paper and paper products has been exceedingly strong in recent years, and the energy crisis could add to 1974 demand by triggering a switch to paper from plastic film and packaging materials. This industry also is unique in that about a third of its fuel requirements are met by burning bark, sawdust, and other processing wastes.

Coal mining. Because of its abundance, coal could well be the brightest spot in the energy picture for many years to come.

In 1974, however, it will not be easy to boost output to meet existing demand. Problem areas include—continuing labor unrest, difficulties in meeting health and safety regulations, shortages of hopper cars, and controversy over measures to reduce the impact of strip mining.

Drilling for oil and gas. Exploration for oil and natural gas has been greatly accelerated. Currently, however, there are troublesome shortages of rigs, pipe, and other drilling equipment and supplies.

Industrial construction. Many major plant construction and expansion projects are underway, and present signs are that starts in 1974 will continue at about the 1973 level.

Less homebuilding will also ease pressure on lumber and cement supplies. Production of boilers, generators, and other machinery and equipment should be adequate, especially if car makers reduce their demand for steel. But low-profit items, like reinforcing bars and structural steel, may be harder to get.

[Based on special material by Claude C. Haren, Economic Development Division.]

The Whys and Why Nots of Vegetable Buying

In a survey of consumers' buying habits for vegetables, ERS tries out 26 . . . and discovers that more than half of these aren't very popular with those interviewed.

The ayes have it for potatoes, corn's future is silky, and onions don't have anything to weep about, but it's hard to turn up a friend for the turnip.

At least that was the general consensus from an ERS survey of 2,600 homemakers interviewed on their buying habits for 26 vegetables.

There were 14 vegetables which most of the homemakers served either infrequently or not at all: asparagus, beets, black-eyed peas, broccoli, brussels sprouts, cauliflower, eggplant, lima beans, okra, radishes, spinach, squash, sweet potatoes, and turnips.

The main reason cited by these homemakers for infrequent or nonserving of these vegetables was "dislike of taste."

Among other reasons mentioned fairly often for infrequent serving were: difficulty in digesting (radishes); high cost (asparagus, cauliflower); get tired of (beets, black-eyed peas, broccoli, brussels sprouts, lima beans, spinach, squash, and turnips); not easy to prepare (eggplant); and high in calories (sweet potatoes).

No experience with the product was a relatively frequent response, next to dislike of taste, given by many homemakers for not serving black-eyed peas and okra.

On the more positive side, 12 of the 26 vegetables found considerable favor in the family dining room.

The center of attention went to tomatoes, lettuce, white potatoes, and white onions. More than half the homemakers said they served these vegetables twice a week or more.

Next were green beans, corn, and green peas.

Also popular were celery, cucumbers, carrots, cabbage, and green peppers. More than half the home-

makers served them at least twice a month.

Homemakers scored these 12 vegetables not only for their taste, but also because they were easy to prepare, could be used in a number of ways, were high in vitamins and minerals, and because their families didn't get tired of them.

The most universally liked vegetables—by 3 out of 4 in each age group—turned out to be white potatoes and corn. Tomatoes followed, liked by 4 out of 5 adults and 2 out of 3 younger family members.

Lettuce and green beans were next, with 3 out of 4 adults liking them and 2 out of 3 of the younger family members—ages 2 to 19.

In the dislike corner, adults were particularly not partial to eggplant, okra, and turnips, while half of the younger family members didn't like asparagus, brussels sprouts, eggplant, and turnips.

[Based on a manuscript entitled Consumers' Preferences, Usages, and Buying Practices for Selected Vegetables by Jon P. Weimer and Patricia Stevens, National Economics Analysis Division.]

Coming Attractions?

How game are you to try some new vegetable products?

In an ERS survey of 2,600 homemakers, more than half said they were willing to try two of the eight new product concepts they were quizzed on: Tomato wedges in cans and a tomato powder which dissolves in water to make tomato paste, sauce or juice, depending on the amount added.

A little less than half the homemakers said they'd be willing to try three other products: quick-cooking frozen pinto beans, a frozen bean salad which contains six types of beans, and "explosion-puffed" potato slices.

The "explosion-puffed" process gives quick-cooking properties to dehydrated pieces of vegetables. The vegetables then cook in about 5 minutes in boiling water.

Less interest was shown in explosion-puffed celery, explosion-puffed carrots, and instant bean dip powder, which can be used to make bean dip, bean soup, or refried beans.

Food Ads Can Baffle Comparison Shopper

So you want to get the most for your money.

Okay. Let's try something.

Let's say you're reading the food ads and you want to buy a frozen pumpkin pie.

One store advertises a 20-ounce pie, another, a "regular" size, and another, an 8-inch pie. For the sake of argument, let's say the price is the same for all. Which one would you choose?

Some researchers at ERS have done just this kind of comparison shopping through newspaper ads. Their conclusion? Probably the same as yours—it isn't easy.

Take the case of the frozen pumpkin pie. How can you choose? You aren't given enough information.

ERS's study covered 3 years of Thanksgiving holiday ads by 38 retail companies in 14 cities. A holiday season is an important shopping time because that's when consumers are especially interested in best buys, what with lots of extra expenses competing for their money.

Let's talk turkey.

It's the focus of many a Thanksgiving dinner, the feature of many a Thanksgiving ad.

But when it comes down to the nitty-gritty of price, it's not always so prominently displayed.

The study found, for instance, some turkeys were advertised at a certain price per pound if they weighed 10 to 14 pounds, and another price if they weighed 18 to 20 pounds. But nowhere did the ad tell you how much a 15- to 17-pound turkey would cost.

Another ad gave a price for 10- to 16-pound turkeys and a price for 16- to 20-pound turkeys. Who's to know which price category the 16-pound turkey is in?

Brown-and-serve rolls, another popular holiday item, added to the comparison confusion. Not all ads tell how many are in a package or how much they weigh.

Frozen pie shells are another example. Would you prefer five to a package and not be told the weight . . . or would you prefer a 10-ounce package and not be told the size or the number of pie shells?

It's much easier to compare—and save—on fresh and canned foods.

Often-featured canned peas, for instance, are usually sold in the same weight can, and thus can be easily compared. The same is true for canned cranberry sauce.

[Based on special material from Susan Boysen, National Economic Analysis Division.]

Consumers Favor More Information On Vegetable Labels

A good number of consumers interviewed in ERS's survey wanted more information on labels of canned and frozen vegetables.

About 3 out of 5 of the 2,600 homemakers interviewed said they felt calories per serving should be shown on the labels, and about the same number said this information was not usually on them.

Eighty-five percent of the consumers interviewed said they felt the labels should show the date after which the product is not to be sold. Nearly 80 percent said this information was not usually on the label.

Information which the consumers expressed the least interest in seeing on labels included recipes and serving ideas and kinds and amounts of nutrients.

Younger homemakers in the survey seemed more concerned than the group as a whole that labels show such information as cooking directions, calories per serving, U.S. grades, style (such as whole, sliced, or diced), ingredients, nutrients, and the date after which the product is not to be sold.

The same pattern of concern was also shown by homemakers with a higher educational level, those with higher household income, and those with children in the family.

Recent Publications

World Monetary Conditions in Relation to Agricultural Trade. O. Halbert Goolsby and Spencer F. England, Foreign Demand and Competition Division. WMC-5.

The purpose of this report is to provide economic intelligence on international monetary and financial affairs for people concerned with promoting U.S. agricultural products.

Major Uses of Land in the United States, Summary for 1969. H. Thomas Frey, Natural Resource Economics Division. AER-247.

Recent decades have seen little change in the distribution of land among major agricultural and forestry uses. One-fifth of the total area is in crops, over one-fourth in permanent grassland pasture, and one-third in forest land. Urban and transportation uses claim 3 percent; recreation, wildlife, and other special uses 5 percent; and unclassified areas 13 percent.

Alternatives for Reducing Water Pollution in Cattlehide Processing and Tanning. Frederick J. Poats, National Economic Analysis Division, and Joseph Naghski, Agricultural Research Service. ERS-537.

Adjusting to new Federal water pollution standards would require major changes in operations, materials used, and form of hide product sold by hide processors. This study examines the choices open to the industry.

Food Consumption, Prices, and Expenditures. National Economic Analysis Division. Supplement for 1972 to AER-138.

This statistical update gives highlights of changes during 1972, also features tables and charts including food consumption indexes, supply and utilization, food prices and indexes, and food spending, income, and population.

Changes in Cigar Leaf Tobacco Acreage. Johnny D. Braden, Commodity Economics Division. ERS-539.

During 1950-71 the acreage in cigar leaf tobacco declined about two-thirds to 37,000 acres—a trend which is likely to continue. Most of the year-to-year changes were explained by the farm tobacco price-wage ratio and trend.

Single copies of the publications listed here are available free from The Farm Index, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250. However, publications indicated by (*) may be obtained only by writing to the experiment station or university. For addresses, see the July and December issues of The Farm Index.

World Agricultural Situation. Foreign Demand and Competition Division. WAS-4, December 1973.

World agricultural production (excluding Communist Asia) rose about 6 percent to a record high in 1973, recovering from the poor harvest of 1972. Production rose notably in the U.S., Canada, the U.S.S.R., India, Latin America, and Oceania. World food production (excluding Communist Asia) also rose to a new high in 1973, and per capita output of food equaled 1971's record.

Tracking Trade

The U.S. is the world's leading exporter of agricultural products, accounting for close to a fifth of all farm commodities shipped in international trade. We're also the world's second largest importer of farm products.

Learn more about our trade patterns in *America's Foreign Agricultural Trade*, a new leaflet produced by ERS. You'll get the facts on such topics as—

Commodities we export and import

Markets for our exports and suppliers of our imports

Growth in U.S. agricultural trade

Regional trading blocs

U.S. agricultural trade policies

How exports help agriculture and the American economy.

This leaflet is ideal for classroom use and as a handout at meetings of agricultural leaders. Ask for Misc. Pub. No. 1277.

Developing Profitable Row Crop Systems in Louisiana: A Graphic Technique Applicable to Individual Farm Analysis. Arthur M. Heagler, Commodity Economics Division; Coral F. Francois, Louisiana State University; and James H. White, University of Arkansas. A.E.A. Information Series No. 32.*

This report was developed to assist individual farm operators in determining alternative farm production plans. Data are applicable to any area or individual producer, assuming prices, yields, and production costs fall within the ranges included in the graphs in this report.

Sow Leasing and Contract Hog Feeding—An Analysis of Producer Characteristics and Incentives. William G. Bursch, Purdue University, in cooperation with Farm Production Economics Division. SB17.*

In evaluating the farm level incentives for sow leasing and contract hog finishing, researchers first identified the characteristics of hog producers who operate with these contracts, and second, evaluated the motives voiced by producers who have operated with these contracts.

Optimal Tillage and Planting Equipment Combinations for Central and Western North Dakota. Ronald D. Krenz and Charles C. Micheel, Commodity Economics Division. AER–96.*

Maximum capacity tillage and seeding acreages were estimated for a variety of machinery combinations using asumptions on time available for seeding, standard tillage practices, and standard field efficiencies of tillage and seeding operations.

Economic Trends

Item	Unit or Base Period	1967	1972 Year	1972 Nov.	1973 Sept.	1973 Oct.	1973 Nov.
Prices:							
Prices received by farmers	1967=100	—	126	131	191	184	181
Crops	1967=100	—	115	120	183	182	181
Livestock and products	1967=100	—	134	138	198	187	182
Prices paid, interest, taxes and wage rates	1967=100	—	127	130	150	150	151
Family living items	1967=100	—	124	127	142	142	146
Production items	1967=100	—	122	126	154	153	153
Ratio [1]	1967=100	—	100	101	127	123	120
Wholesale prices, all commodities	1967=100	—	119.1	120.7	140.2	139.5	141.8
Industrial commodities	1967=100	—	117.9	119.1	128.1	129.6	133.5
Farm products	1967=100	—	125.0	128.8	200.4	188.4	184.0
Processed foods and feeds	1967=100	—	120.8	123.1	156.3	153.1	151.9
Consumer price index, all items	1967=100	—	125.3	126.9	135.5	136.6	137.6
Food	1967=100	—	123.5	125.4	148.3	148.4	150.0
Farm Food Market Basket: [2]							
Retail cost	1967=100	—	121.3	—	150.7	149.9	152.7
Farm value	1967=100	—	124.5	—	178.9	172.6	171.1
Farm-retail spread	1967=100	—	119.3	—	132.8	135.5	141.0
Farmers' share of retail cost	Percent	—	40	—	46	45	43
Farm Income: [3]							
Volume of farm marketings	1967=100	—	112	161	111	165	159
Cash receipts from farm marketings	Million dollars	42,693	60,671	7,188	7,778	11,367	10,300
Crops	Million dollars	18,434	25,075	4,016	3,694	6,757	6,300
Livestock and products	Million dollars	24,259	35,596	3,172	4,084	4,610	4,000
Realized gross income [4]	Billion dollars	49.0	68.9	—	91.4	—	—
Farm production expenses [4]	Billion dollars	34.8	49.2	—	65.9	—	—
Realized net income [4]	Billion dollars	14.2	19.7	—	25.5	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	—	9,404	1,080	1,449	1,734	2,082
Agricultural imports	Million dollars	—	6,459	548	639	710	851
Land Values:							
Average value per acre	Dollars	[6] 168	[7] 219	—	—	—	[8] 247
Total value of farm real estate	Billion dollars	[6] 181.9	[7] 230.5	—	—	—	[8] 258.7
Gross National Product: [4]	Billion dollars	793.9	1,155.2	—	1,304.5	—	—
Consumption	Billion dollars	492.1	726.5	—	816.0	—	—
Investment	Billion dollars	116.6	178.3	—	202.0	—	—
Government expenditures	Billion dollars	180.1	255.0	—	279.0	—	—
Net exports	Billion dollars	5.2	—4.6	—	7.6	—	—
Income and Spending: [5]							
Personal income, annual rate	Billion dollars	629.3	939.2	977.6	1,058.5	1,068.5	1,079.4
Total retail sales, monthly rate	Million dollars	26,151	37,365	38,713	42,525	43,070	43,035
Retail sales of food group, monthly rate	Million dollars	5,759	7,918	8,134	8,992	9,194	9,175
Employment and Wages: [5]							
Total civilian employment	Millions	74.4	[9] 81.7	[9] 82.5	[9] 85.1	[9] 85.7	[9] 85.7
Agricultural	Millions	3.8	[9] 3.5	[9] 3.6	[9] 3.4	[9] 3.5	[9] 3.6
Rate of unemployment	Percent	3.8	5.6	5.2	4.8	4.5	4.7
Workweek in manufacturing	Hours	40.6	40.6	40.8	40.8	40.6	40.7
Hourly earnings in manufacturing, unadjusted	Dollars	2.83	3.81	3.89	4.13	4.14	4.16
Industrial Production: [5]	1967 = 100	—	115	120	127	127	127
Manufacturers' Shipments and Inventories: [5]							
Total shipments, monthly rate	Million dollars	46,449	62,466	66,993	73,060	75,269	77,043
Total inventories, book value end of month	Million dollars	84,655	107,719	106,974	116,114	117,224	118,344
Total new orders, monthly rate	Million dollars	46,763	63,514	67,726	75,129	77,758	79,561

[1] Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. [2] Average annual quantities of farm food products purchased by urban wage earner and clerical worker households (including those of single workers living alone) in 1959-61—estimated monthly. [3] Annual and quarterly data are on 50-State basis. [4] Annual rates seasonally adjusted third quarter. [5] Seasonally adjusted. [6] As of March 1, 1967. [7] As of March 1, 1972. [8] As of March 1, 1973. [9] Beginning January 1972 data not strictly comparable with prior data because of adjustment to 1970 Census data.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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